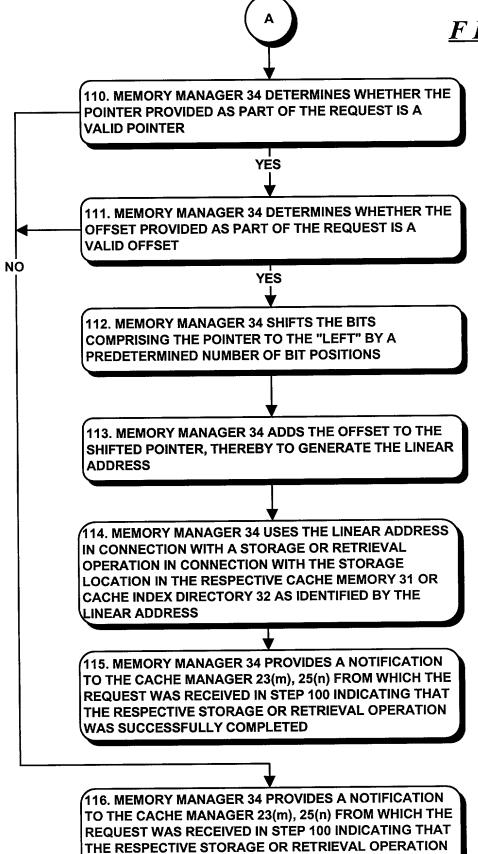*FIG.1*

FIG. 2

100. MEMORY MANAGER 34 RECEIVES A STORAGE OR RETRIEVAL REQUEST FROM A CACHE MANAGER 23(m), 25(n)

101. MEMORY MANAGER 34 DETERMINES WHETHER THE REQUEST IS TO STORE DATA IN OR RETRIEVE DATA FROM A STORAGE LOCATION IN THE COMMON MEMORY SECTION 33, ON THE ONE HAND, OR THE CACHE MEMORY 31 OR CACHE INDEX DIRECTORY 32, ON THE OTHER HAND

CACHE MEM 31 OR CACHE INDEX DIR 32

COMMON MEM SECTION 33

102. MEMORY MANAGER 34 DETERMINES WHETHER THE ADDRESS RECEIVED WITH THE REQUEST IS WITHIN THE RANGE OF ADDRESSES FOR THE COMMON MEMORY SECTION 33

—NO—

A

YES

103. MEMORY MANAGER 34 USES THE ADDRESS IN CONNECTION WITH A STORAGE OR RETRIEVAL OPERATION IN CONNECTION WITH THE STORAGE LOCATION IN THE COMMON MEMORY SECTION 33 IDENTIFIED BY THE ADDRESS

104. MEMORY MANAGER 34 PROVIDES A NOTIFICATION TO THE CACHE MANAGER 23(m), 25(n) FROM WHICH THE REQUEST WAS RECEIVED IN STEP 100 INDICATING THAT THE RESPECTIVE STORAGE OR RETRIEVAL OPERATION WAS SUCCESSFULLY COMPLETED

105. MEMORY MANAGER 34 PROVIDES A NOTIFICATION TO THE CACHE MANAGER 23(m), 25(n) FROM WHICH THE REQUEST WAS RECEIVED IN STEP 100 INDICATING THAT THE RESPECTIVE STORAGE OR RETRIEVAL OPERATION WAS NOT SUCCESSFULLY COMPLETED

A

F I G. 2A

110. MEMORY MANAGER 34 DETERMINES WHETHER THE POINTER PROVIDED AS PART OF THE REQUEST IS A VALID POINTER

YES

111. MEMORY MANAGER 34 DETERMINES WHETHER THE OFFSET PROVIDED AS PART OF THE REQUEST IS A VALID OFFSET

NO

YES

112. MEMORY MANAGER 34 SHIFTS THE BITS COMPRISING THE POINTER TO THE "LEFT" BY A PREDETERMINED NUMBER OF BIT POSITIONS

113. MEMORY MANAGER 34 ADDS THE OFFSET TO THE SHIFTED POINTER, THEREBY TO GENERATE THE LINEAR ADDRESS

114. MEMORY MANAGER 34 USES THE LINEAR ADDRESS IN CONNECTION WITH A STORAGE OR RETRIEVAL OPERATION IN CONNECTION WITH THE STORAGE LOCATION IN THE RESPECTIVE CACHE MEMORY 31 OR CACHE INDEX DIRECTORY 32 AS IDENTIFIED BY THE LINEAR ADDRESS

115. MEMORY MANAGER 34 PROVIDES A NOTIFICATION TO THE CACHE MANAGER 23(m), 25(n) FROM WHICH THE REQUEST WAS RECEIVED IN STEP 100 INDICATING THAT THE RESPECTIVE STORAGE OR RETRIEVAL OPERATION WAS SUCCESSFULLY COMPLETED

116. MEMORY MANAGER 34 PROVIDES A NOTIFICATION TO THE CACHE MANAGER 23(m), 25(n) FROM WHICH THE REQUEST WAS RECEIVED IN STEP 100 INDICATING THAT THE RESPECTIVE STORAGE OR RETRIEVAL OPERATION WAS NOT SUCCESSFULLY COMPLETED